CelleBrite
Universal Forensic Products

UFED system

UNIVERSAL FORENSIC EXTRACTION DEVICE

USER MANUAL

UFED Standard

UFED Ruggedized

UFED SYSTEM

UNIVERSAL FORENSIC EXTRACTION DEVICE

USER MANUAL

June 2009 | version 4b

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WARNING: The UFED is powered a rechargeable, Lithium Polymer battery.Please read and understand the operation and warnings before charging or using your UFED device. Improper use or charging may result in fire, personal injury, and damage to property. See Appendix A.

WARNING: The UFED should be used only with the dedicated AC/DC adapter supplied with this device.

WARNING: USB, Ethernet and target and source connectors should be connected only to CE approved devices (according to IEC/EN 60065 standard).

WARNING: Make sure that all external connections to other devices (except for the power adapter) are only indoor and SELV (safety extra low voltage, not exceed 42.4 Vpeak or 60Vdc).

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Chapter 1. **Introduction**

1.1. Overview

The Cellebrite UFED Forensics system empowers law enforcement, anti-terror and security organizations to capture critical forensic evidence from mobile phones, Smartphones and PDAs.

UFED extracts vital data such as phonebook, camera pictures, videos, audio, text messages (SMS), call logs, ESN IMEI, ICCID and IMSI information from over 1,600 handset models, including Symbian, Microsoft Mobile, Blackberry and Palm OS devices.

Cellebrite UFED enables SIM ID cloning, allowing you to extract phone data while preventing the cellular device from connecting to the network.

The UFED can extract data from a phone, or directly from the SIM card. When extracting from phone, the UFED connects to the phone via cable, Bluetooth or infrared, and the data is read logically from the phone. It also performs a physical extraction from SIM cards, allowing extraction of additional data such as deleted SMS, ICCID, IMSI, location information and more.

Data is copied to any standard USB flash drive or SD card and is then organized into clear and concise reports.

Cellebrite's industry expertise provides reliability and ease-of-use, and ensures the broadest support for handset varieties, including updates for newly released models even before they are available in the market.

Portable and easy to operate, the UFED can be used in the forensic lab as well as in the field. The UFED is a handheld device, without the need for a PC in the field. The Ruggedized version of the UFED comes with hard-sided case and battery power, for even greater mobility and flexibility and fully loaded with all needed accessories.

The UFED Report Manager software on your PC creates detailed reports of the extracted data that can be used as evidence. Reports include full extraction details as well as MD5 hash information that proves that the data is original and untouched.

Chapter 2. **UFED Configuration: Ruggedized and Standard Versions**

2.1. UFED Kit Contents

The UFED comes equipped with all you need for mobile phone analysis. You can choose from either of two kit types: Standard Kit and Ruggedized Kit.

Standard Kit

Ruggedized Kit

The following table lists the features and accessories that come with each kit. Some of the accessories can be purchased separately, allowing you to upgrade some features of a Standard Kit UFED.

Kit Features	Standard Kit	Ruggedized Kit
Kit Carrying Case	Convenient vinyl carrying case	Hard-side plastic casing with secure latches
UFED Device	√	√
UFED Device Casing	Standard	Rubber casing with dataport flap coverings
Cable Organizer	√	√
Data Cables	Full Set	Full Set
Small Cable Pouch for quick excursions	-	√
Bluetooth Dongle for wireless phone connection	√	√
USB Flash Drive for saving examination data	√	√
AC Power Supply	√	√
UFED Battery Pack	-	√
12V In-vehicle (Cigarette Lighter) Power adapter	√	√
SIM ID Cloning Cards	√	√
Card Reader	-	√
Mobile Phone Battery Charger set	-	√
Faraday Bag	-	√
UFED Manager- Report Viewing and Printing Software	√	√
Phone Connection Cleansing Brush	√	√
User Manual and Support CD	√	√

2.2. UFED Device Overview

1. Power Supply (Connect to power adapter)
2. LCD Display
3. Function Keys (F1 for help. F2 for select/deselect all)
4. ON/OFF Power Button
5. Target-side Connectors (For extraction to USB disk drive)
6. SIM / Smart Card Slots (Slot for reading SIM cards and smart cards)
7. Navigation Keys (For navigating the UFED menu)
8. Source-side Connectors (Connect phone via USB, serial or IR)
9. Cancel Button
10. SD Card Slot (For extraction to SD card)
11. USB Port Extension (Use for Bluetooth dongle or other external devices such as keyboard)

12. Serial connection (not in use)
13. Ethernet port (Connect to network for automatic updates and for uploading data to a network hosted PC)
14. Mini-USB Port (Connect to a PC via mini-USB cable, for extraction to PC)
15. Battery kit and battery housing protective covering
16. Charging switch.
17. Battery's state-of-charge –test and LED indicators.

2.3. Ruggedized UFED Carrying Case

The UFED Ruggedized carrying case is designed specifically for field use conditions.

To open the case, flip the two latches open.

NOTE: The case is air-tight sealed. When the case undergoes changes in atmospheric pressure (ex. mountain areas, after airplane flights), the latches may be ‘stuck’ closed. When this happens, you should release the vacuum by unscrewing the vacuum release valve, located in the center of the case, next to the handle.

2.4. Ruggedized UFED Rubber Casing

The Ruggedized UFED device is encased in a rubber casing, to hold the battery house and to protect the UFED from dirt, dust, sand or other contaminants.

To replace the casing on the UFED, refer to Appendix A.

2.5. Power and Battery Options

The UFED device can be powered by an AC power supply, a car power supply, or by battery power. (NOTE: car power supply and battery pack come with the Ruggedized Kit only.)

Battery Power

To run the UFED on battery power, flip the power switch to the right ("BAT") position. Battery power will take over.

Charging the Battery

To re-charge the battery, connect the device to an AC adapter (supplied with the kit), and then flip the power switch to the left ("CHG") position.

LED Indicator

The LED indicator provides input regarding the state of the UFED power:

LED Status	Indication
Red	Battery charge in process
Green	Battery fully charged
No light	Sleep mode (no input power source) OR No battery connected OR Charge suspended (timer fault or thermal shutdown) OR Over-voltage fault
Flashing Red	Indicates a problem with the battery. Verify that the battery is connected properly.

Inserting or Removing Battery

Please refer to Appendix A for instructions on installing, removing or exchanging the battery pack.

Chapter 3. **Getting Started**

3.1. Initial Setup

2.1.1 Unpacking the UFED

Unpack the UFED device from the kit (See Chapter 1). Connect the power supply adapter to the UFED. “Please Wait” appears briefly on the screen, followed by a screen showing the version numbers. When starting the UFED for the first time, you need to set the date, time and GMT. At this point, the UFED is ready to be used, and the Main Menu is displayed.

Extract Phone Data - This option is for extracting data from a mobile phone. (See Chapter 3)

Extract SIM/USIM Data – This option is physical extraction directly from a SIM card. (See Chapter 4)

Clone SIM ID– This option copies a SIM card, enabling you to analyze the phone without it being open for incoming calls, . (See Chapter 5)

Services - Allows you to upgrade your UFED with updated phone support (see Chapter 1). In addition, you can use Services to perform various administrative tasks (see Chapter 10).

3.2. UFED Menu Navigation

The UFED shows menu options on the display.

- Use the ▲▼ keys to move between options**.**
- To select an option, press ► or the **OK** key**.**
- To return to the previous menu, press ◄. When additional help is available, a help icon will appear in the upper left of the screen. Press F1 to view this help.

Chapter 4. **Extract Phone Data**

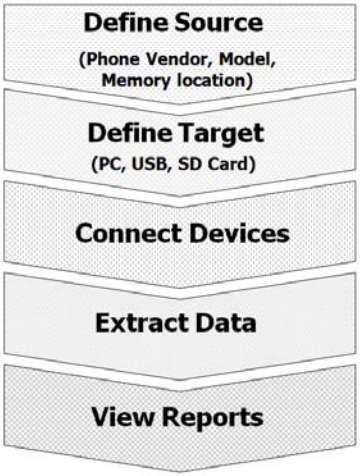
4.1. Overview

Select *Extract Phone Data* from the main menu in order to copy data from a phone (the source) to a PC, USB or SD card (the target).

Use this function to extract phonebook, SMS text messages, pictures, etc. from mobile phone memory to a USB disk drive, SD card or directly to a PC.

The UFED guides you each step of the way during this process.

4.2. Flowchart

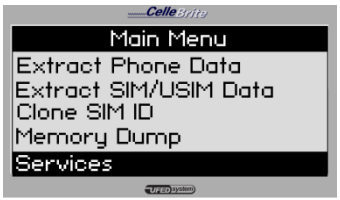


There are only slight differences in the procedure when the target is a USB disk drive or a PC. Both procedures are described below. Refer to the procedure relevant to you.

4.3. Extract Phone Data to USB Disk Drive or SD Card

Follow the steps below to perform a data extraction from a mobile phone to a USB disk drive or an SD card.

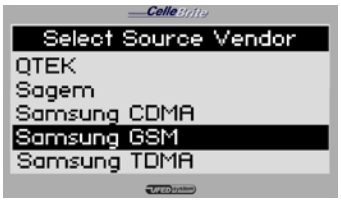
1. Main Menu



Select *Extract Phone Data* from the main menu.

Use the ▲▼ keys to move between options**.** Press OK or ► to continue**.**

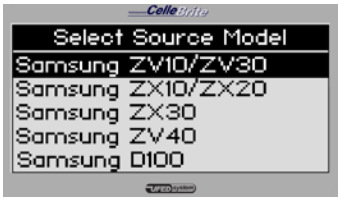
2. Source Vendor



Select the vendor (manufacturer) of the source phone.

Use the ▲▼ keys to move between options**.** Press OK or ► to continue.

3. Source Model



Select the source phone model.

NOTE: If you do not know the model, you can often find the phone model on a sticker beneath the battery.

Use the ▲▼ keys to move between options**.** Press OK or ► to continue**.**

To return to the previous menu, press ◄.

4. Source Memory

Select the source memory location you wish to extract**.**

Use the ▲▼ keys to move between options**.** Press OK to select the currently highlgithed option, or press F2 to select all. Press ► to continue**.**

NOTE: Some phones do not allow access to the SIM card data via the data cable. In these cases, you will be prompted during the process to remove the SIM card and insert it into the SIM Card Slot**.**

5. Source Link

This step determines how the phone will connect to the UFED. This message appears **only** if the phone supports more than one connection method (Cable, Bluetooth or IrDA-Infrared).

Use the ▲▼ keys to move between options**.** Press OK or ► to continue**.**

NOTE: For best speed and reliability, we recommend using cable whenever possible.

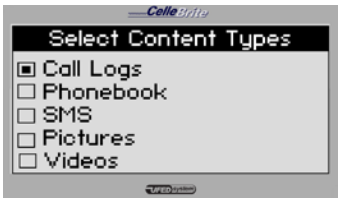
6. Target Selection

Select *USB* (or SD) as the target location where the content will be copied to.

NOTE: If you extract to PC, the content goes directly into the UFED Report Manager software. If you extract to USB or SD, the content is stored in a separate directory on the storage device.

Use the ▲▼keys to move between options**.** Press OK or ► to continue**.**

7. Content Types



Select content types to be extracted . The UFED displays the options according to the capabilities available in the phone. (ex. If the phone does not support video, the “Videos” option will not appear).

Use the ▲▼ keys to move between options**.** Press OK to select an option. Pressing on F2 will select/deselect all options. Press ► to continue**.**

8. Transfer Instructions: Connection

The UFED now displays the connectivity instructions.

- If connecting via cable, the cable

number is displayed.

- If connecting via Bluetooth, refer to Chapter 6 for details.
- If connecting via IrDA (Infrared), place the phone with its infrared port directly in front of the UFED's source or target infrared port.

Make sure that the phone is powered on, and the data connector is clean.

NOTE: When connected to the UFED, some phones will prompt you to choose an operating mode, such as "PC Suite" or "Phone Mode".

Press ► to start extraction**.**

9. Connect Target Device

If you have not yet plugged the USB drive or SD card into the UFED, do it now. The UFED is ready to copy the data to the storage device.

Press ► to continue**.**

WARNING: Do not disconnect the phone or the power adaptor during the process! Once started, the process should not be interrupted.

10. Smartphone / PDA Installation

If the phone is a Smart Phone or PDA, you may need to install a client application on the phone.

Press ► to continue**.**

11. Completion

Upon the completion of the process the UFED- displays a message.

The message on the screen includes the phone's ESN (for CDMA) OR IMEI (for GSM).

NOTE: Besides the standard user phone data, the UFED also provides metadata about he phone. Among this data is the ESN (for CDMA phones) or IMEI (for GSM phones). The ESN or IMEA is a unique identifier or serial number uniquely associated with each single handset device.

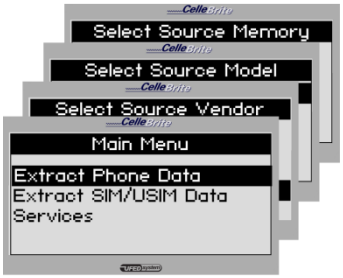
At this stage, the data is stored on the USB drive. This backup directory can be opened in the UFED Report Manager PC software to analyze data and generate reports. The data is also stored in HTML format, and can be opened on any PC .

The transfer process is complete and you may now disconnect the phone and the PC from the UFED device.

4.4. Extract Phone Data to a PC

The UFED system includes UFED Report Manager software, which you can use to upload the extracted phone data from the UFED to your PC.

1. Main Menu and Phone Definitions



Select *Extract Phone Data* from the main menu, and then select the phone vendor, model, memory location and link method.

This part of the process is identical to the USB Extraction process. (see Section 4.3).

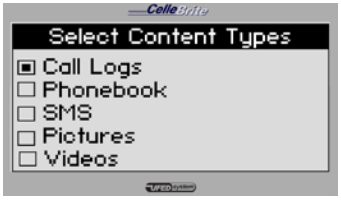
Use the ▲▼ keys to move between options**.** Press OK or ► to continue**.**

2. Target Selection

Select *PC* from the target menu.

Use the ▲▼keys to move between options**.** Press OK or ► to continue **.**

3. Content Types



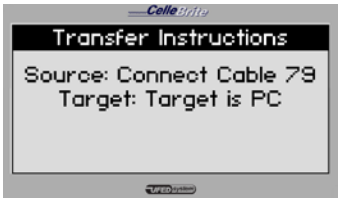
Select content types to be extracted. The UFED displays the options according to the capabilities available in the source phone. (ex. If the phone does not support video, the “Videos” option will not appear).

Use the ▲▼ keys to move between options**.** Press OK to select an option.

Press ► to continue**.**

NOTE: Transfer time varies according to the data types selected. Selecting all options will increase the transfer time.

4. Transfer Instructions: Connection



Make sure that the UFED is connected to the PC using the mini-USB cable.

The UFED displays the cable number to be used to connect the phone.

NOTE: When connected to the UFED, some phones will prompt you to choose an operating mode, such as “PC Suite” or “Phone Mode”.

Press ► to continue**.**

The UFED now extracts the selected data to its internal memory, the following message will appear at the end of the extraction:

5. Run the UFED Report Manager

Run the UFED Report Manager software on your PC by choosing Start/Programs/Cellebrite Mobile Synchronization/UFED Report Manager.

6. Read Data from Phone

Click the Read phone icon.

- If connecting the phone via cable, the UFED informs you which cable number to use. Find the cables in the cable organizer, according to the numbers indicated on the cable.
- If connecting via Bluetooth, refer to Chapter 6 for details.
- If connecting via IrDA (Infrared), place the phone with its infrared port directly in front of the UFED's source or target infrared port.

5. Smartphone / PDA Installation

If the extracted phone is a Smart Phone or PDA, you may need to install a client application on the phone. (See Chapter 7)

Press ► to continue.

6. Transfer

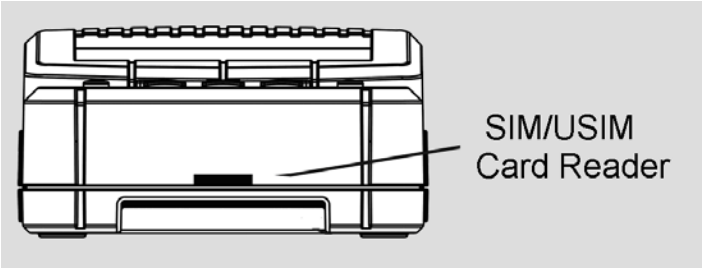
The UFED now sends the extracted data from its internal memory to the PC.

Transfer process is complete and you may now disconnect the phone and the PC from the UFED device.

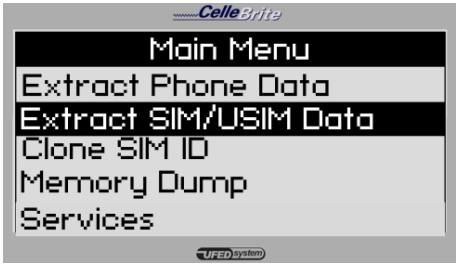
Chapter 5. **Extract SIM/USIM Data**

Your UFED is equipped an integrated SIM/USIM card reader. It is located at the bottom of the UFED, as shown below.

FRONT VIEW OF UFED DEVICE

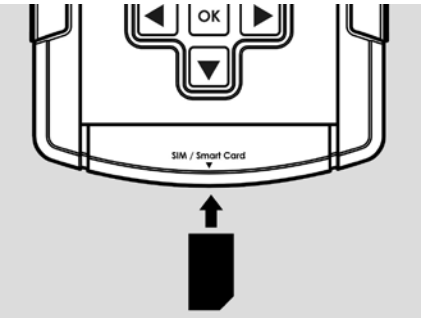


You can use this SIM reader to extract data directly from the SIM card instead of via the phone, or when the SIM card is not accessible via the phone.

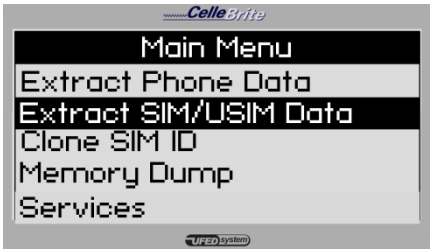


Using the second option from the main menu gives the option of Physical extraction and the output of this extraction is additional data from the SIM such as ICCID, IMSI, location information, SMS, deleted SMS, Phonebook and more.

When using the SIM Card Reader, insert the SIM as shown in the picture below. Be sure that the angled side is on the outer side. The actual SIM contacts should be facing down.



The procedure for transferring data to a SIM card is similar to the data extraction procedure from a phone described in Chapter 4. Select *Extract SIM Data* from the main menu.



Insert the SIM card as described above, and continue exactly as described for phone extraction in Chapter 3.

NOTE: If the SIM is protected with a PIN, you will need to enter the PIN during the transfer process. To enter the PIN code, use the ▲▼keys to move the cursor to the required digit, and press OK to select that digit. Repeat this for each digit of the PIN. To delete a digit, press the © key. When complete, press F3

Chapter 6. **Clone SIM ID**

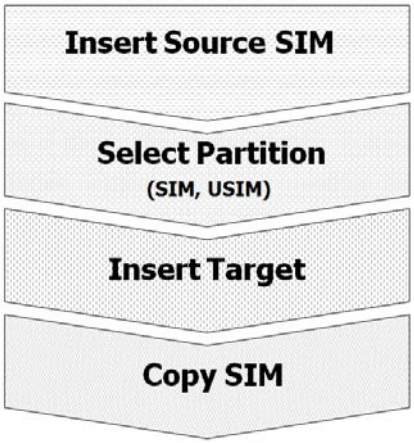
6.1. Overview

Cellebrite's UFED (Universal Forensics Extraction Device) is capable of SIM ID Cloning utilizing the existing built in SIM Reader, providing your organization with valuable new functionality.

The SIM ID Cloning capabilities of Cellebrite's UFED System solve many key problems facing forensic examiners today:

- **Extract Phone data while preventing the cellular device from connecting to the network-** The handset will be invisible to the network with no calls or SMS messages to, or from the handset, preserving the current call and SMS history in the device- No Faraday Bag required to block RF signals
- **Extract Phone data when the original SIM is not available**- ICCID or IMSI can be manually programmed into the Cloned SIM ID Card to mimic the original missing card
- **Extract Phone data when the SIM card is PIN locked -** Cloning the identification of the original SIM, allows the phone data to be extracted without losing critical data including call history and SMS's.

6.2. Flowchart

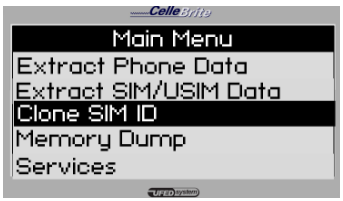


6.3. SIM Cloning – Steps

1. Main Menu

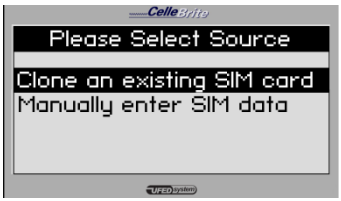
Select *Clone SIM ID* from the main menu.

Use the ▲▼ keys to move between options**.** Press OK or ► to continue**.**

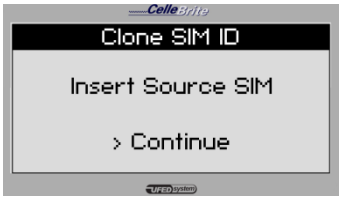


2. Select Source

Select *Clone an existing SIM Card* from the Select Source menu.

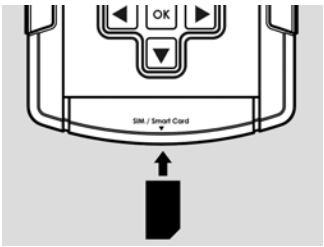


3. Insert Source SIM

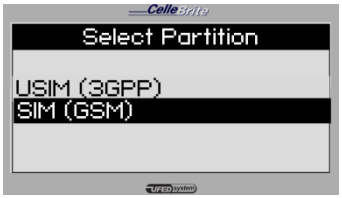


Insert the SIM card that you wish to clone, with the gold side facing down and the cut corner facing outwards.

The slot for the SIM card is located at the bottom of the UFED device.



4. Select Partition to Read



If the card is a 3G SIM card, you will next be asked to choose the partition

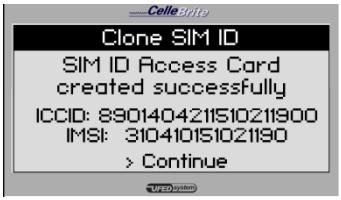
Use the ▲▼ keys to move between options**.** Press OK or ► to continue**.**

5. Insert Target Card

The UFED device now reads data from the source SIM card, storing it in its internal memory.

The UFED then asks you to insert the target card. Insert the UFED SIM ID blank card and press ► to continue.

6. Finished



The UFED next completes the SIM Cloning process.

ICCID and IMSI data is shown on screen.

At this point, you can insert the cloned SIM card into the phone, and continue evaluating the phone.

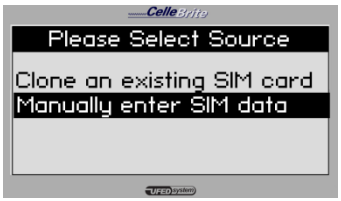
6.4. Manually Creating a Clone SIM Card - Steps

1. Main Menu

Select *Clone SIM ID* from the main menu.

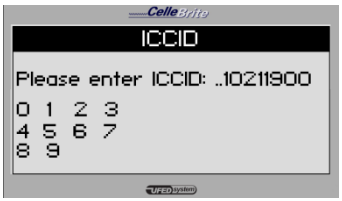
Use the ▲▼ keys to move between options**.** Press OK or ► to continue**.**

2. Select Source



Select *Manually enter SIM data* from the Select Source menu.

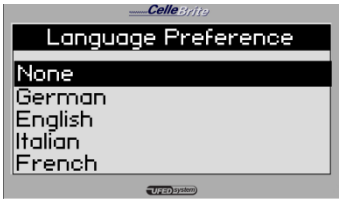
3. Enter ICCID and IMSI



When prompted, enter the ICCID number and the IMSI number.

Use the arrow keys to highlight a digit. Press OK to add the digit. Press F3 when finished.

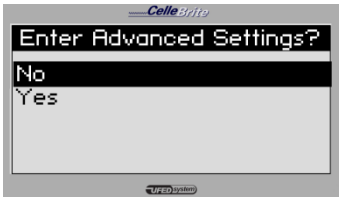
4. Language Preferences



Optionally, you may specify the default language preference for the SIM card.

Use the ▲▼ keys to move between options**.** Press OK or ► to continue**.**

5. Advanced Settings



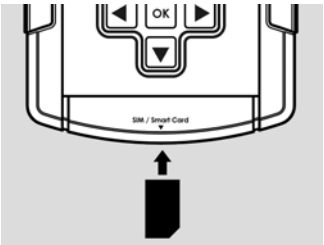
If you wish to add SPN, GID1 and GID2 settings to the SIM card, select *Yes* at the Advanced Settings menu. Otherwise, select *No.*

Use the ▲▼ keys to move between options**.** Press OK or ► to continue**.**

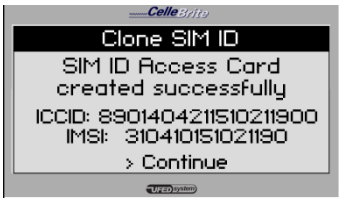
6. Insert Target Card

The UFED then asks you to insert the target card. Insert the Cellebrite UFED SIM ID blank card into the SIM reader, with the gold side facing down and the cut corner facing outwards and press ► to continue.

The slot for the SIM card is located at the bottom of the UFED device.



7. Finished



The UFED next completes the SIM Cloning process.

ICCID and IMSI data is shown on screen.

At this point, you can insert the cloned SIM card into the phone, and continue evaluating the phone.

Chapter 7. **Smart Phones/PDA Support**

When extracting data from Smart Phones or PDA's, you will be asked to upload a client application from the UFED to the phone. This application enables access to the phone memory.

NOTE: Application upload is not necessary for Blackberry and Symbian 3rd edition phones.

1. Client Upload

When necessary, the UFED will inform you to upload the client application, as follows.

3. Install Client Prompt

The UFED now instructs you to run the installation on the phone.

4. Install and Run the client

If the phone prompts you to install, follow the installation steps. Then run the application. You can identify it by the icon.

Pressing F1 on the UFED will inform you of the exact location where the program can be found on the phone.

NOTE: After completing the entire extraction process, you can uninstall the client from the phone.

Chapter 8. Using Bluetooth Connectivity

On some phones, the UFED enables you to use Bluetooth instead of data cables for the extraction process. When you choose Bluetooth for the connectivity type, follow these instructions:

8.1. Phone Settings

On the mobile phone, you must enable the phone to connect via Bluetooth, by turning Bluetooth capabilities on.

In addition, you must set the Bluetooth services to 'Visible' on the phone.

8.2. UFED Bluetooth Adapter

The UFED kit comes with a Bluetooth USB adapter, as shown.

Insert the Bluetooth adapter in either of the two USB ports at the top of the UFED, as shown.
Press ► to continue.

8.3. Identifying the Phone via Bluetooth

The UFED searches for visible Bluetooth devices within its proximity, and provides a list of all devices that it finds. Select the appropriate device from this list. Use the ▲▼ keys to move between options. Press ► to continue. The UFED then instructs you to enter "0000" in the phone to complete the paring between the devices. Once doing this, all data transfer between the UFED and the phone will be performed using Bluetooth.

Chapter 9. **UFED Report Manager Software**

9.1. Overview

The UFED System includes UFED Report Manager Software, which you can use to view and analyze the extracted data on your PC.

The UFED Report Manager enables you to:

1. View and analyze the data extracted.
2. Print a detailed report of the extracted content.
3. Save extracted data.

Throughout the report, data is shown with its full MD5 hash information. When extracting pictures, audio and video files, the UFED system calculates an MD5 hash of each file. The MD5 hash provides a tamper-proof signature of the source file. Any modifications to the file will cause the MD5 hash to change. In this way, the MD5 hash proves the authenticity of each file.

9.2. UFED Report Manager Software Installation

The following steps will guide you through the UFED Report Manager installation process.

1. Install UFED Report Manager software on PC

In order to install the UFED Report Manager, first make sure that Microsoft Dot Net 2.xx is installed on your PC. If it is not, you can find the dotnetfx.exe file on the Cellebrite CD. Install this file and follow the installation instructions.

Next, click on the UFED Report Manager *setup.exe* and follow the installation instructions.

2. *Run UFED Report Manager on PC*

   Launch the UFED Report Manager program on your PC. It can be found on the *Start* menu under *Programs / Cellebrite Mobile Synchronization/ UFED Report Manager.*

3. *Connect the UFED to the PC using mini-USB cable*

   Use the mini-USB cable that comes in the UFED kit to connect the UFED device to your computer. The small end of the cable connects to the UFED mini-USB port, labeled *PC*.

NOTE: The connection between the UFED device and the PC is necessary only if you will be performing extractions directly to PC. If you perform extraction to USB or SD card, you do not this connection.

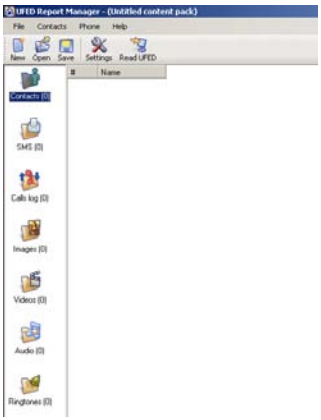
UFED Device Driver Installation

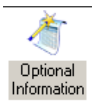
A USB device driver is necessary in order for the PC to recognize the UFED device. In most cases, Windows will automatically pop up a window, asking to install the device driver. Insert the installation CD in the CD drive of the computer, and follow the steps of this wizard, selecting *Find on Installation CD*.

Launch the UFED Report Manager program on your PC. It can be found on the *Start* menu under *Programs / Cellebrite / UFED Report Manager.*

9.3. Data Analysis

The following icons are shown on the left of the window. Under each icon, the number of items of each type is shown





The Optional Information Icon allows you to enter any optional or mandatory fields, as specified in the Tools Settings. This data is then included in the report.

The Report icon shows the full set of information in HTMLformat with links to any sections.

The Contacts icon shows the phonebook contacts list, in tabular format. The table is sortable by clicking on each column header.

The SMS icon shows all SMS messages sent and received with time stamp for each message.

Call log shows all Outgoing, Incoming and Missed calls with time stamp for each call. The UFED automatically associates a name to each phone number, if that number exists in the phonebook contacts. This association is valid only in the context of the current state of the phonebook at time of extraction.

The Images icon shows a thumbnail view of each image.

The Videos icon shows a thumbnail view of each video.

The Audio icon gives a list of each audio file.

The Ringtones icon gives a list of each ringtone.

9.4. UFED Report Manager Menu

File

Open Content Pack	Opens a content pack that has been previously saved on the computer. The file format of a content pack is **.ucp*.
Save Content Pack	Saves the currently open data in a content pack file (*.ucp)
Save Content Pack as	Saves the currently open data in a content pack file (*.ucp) in a new location or different name
Print preview	Displays the full content report on screen in the format that it will be printed.
Print	Sends the report to a printer.
Auto Updates	Cellebrite occasionally distributes updated versions for the UFED Report Manager software. For your convenience, you can set your PC to automatically check the network for new updates.

UFED

Read from UFED	Upload extracted data from the UFED memory to the PC. Select this option when the UFED device instructs you to do so.

Tools	
Settings	Change the default settings of the contacts in the report (Last name/first name order), for viewing or printing purposes.
UFED Settings	Choose formatting options for forensic reports, and specify optional information to be included in reports.
Help	Displays basic information about the software version.

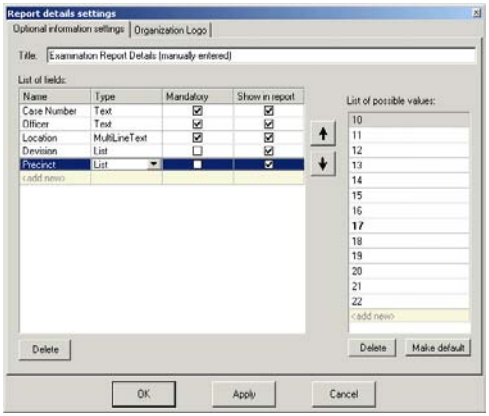
9.5. Reports

Forensics Settings

Selecting Forensics Settings on the Tools menu allows you to configure the formatting and layout of the UFED reports, and also enables you to specify general information fields (ex: Inspector's Name, Case Number, Department etc.) that the user adds to each report.

On the Optional Information Settings tab, enter any fields that you want to include in each report. For each field, you specify the following characteristics:

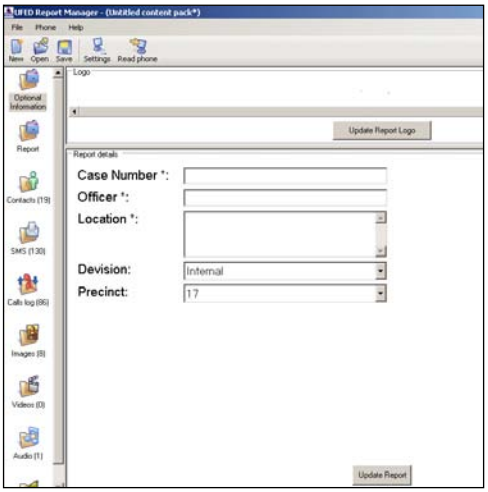
- Name – The name of the field as it will appear in the report
- Type – Choose between Text, Multi-Line Text or List. If it is a List, you also specify the possible values of the list and the default value, in the field on the right of the window.



- Show in report– Specifies whether to show this field in the report.
- Mandatory – If the field is enabled, then this specifies if the field must be filled in by the user, or if it is optional and can be left blank.

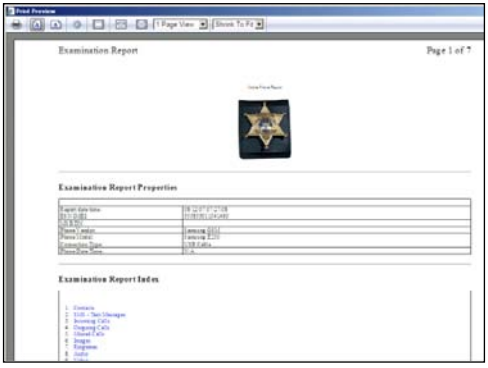
On the Organization Logo tab, you can design the report header formatting. Specify a logo to appear in the header, and add text to appear above and below the logo.

Entering Optional Information



According to the settings defined in the Forensics Settings screen, the user will be prompted for the optional information when producing a report. Click on the *Optional Information* tab, and enter the information in the fields provided. Mandatory fields are marked with a '*'.

Viewing and Printing Reports



At any stage, you can view and print reports. Click on the *Report* icon on the left side of the window. The report contents appear on the screen.

To print the report, choose *Report / Print.* A print preview option is also available.

Chapter 10. **Services**

The Services option on the main menu allows you to perform various administrative tasks for the UFED.

10.1. Upgrade

The Upgrade process enables you perform software upgrades for the UFED. This process is detailed in full in Chapter 1.

10.2. Software Versions

Displays the current version numbers and system information.

- App – The application version
- Full and Tiny – The software image versions
- S/N – The UFED Serial Number
- ID – The unique identifier, used during the activation process

10.3. Counters

- Show Counters - Shows the number of transactions performed by the UFED device
- Reset Counters - Resets all counters to zero
- Set Counters - Allows you to set the counters to a specific value

10.4. Help

- Phone Specific Help - Allows you to view various help information about specific phones
- Generate File – Allows you to generate and export the full help info to a USB disk drive

10.5. Network Settings

Allows you to configure various network settings for the UFED device, when connected to a network via the Ethernet port. Press F1 for configuration.
Settings include:

- Dynamic IP settings – Dynamic or Static DNS
- Static IP settings – IP addresses

10.6. Screen Settings

- Contrast - Modify the contrast level of the LCD screen

10.7. Time and Date

Set the current time and date on the UFED device including GMT and Daylight saving time

10.8. User Settings

User interface

- **Select Language** – Change the menu language
- **Silent Mode –** Mutes all UFED sounds
- **Failure Notification** –Beeps when a UFED operation fails.
- **Connect Device Prompt** - UFED prompt to connect the target device after the "reading" process. Turning this feature off will

save time by eliminating prompts during the extraction process.

- **Estimated Transfer Time -** Turns on or off the extraction time estimation, which appears during the extraction process.

- **Help Instructions** – Sets how to expose the "help" instructions to the user.

Global Settings

- **Create Log file**

- **Restore Factory Defaults -** Reset the UFED to the original factory settings

Phonebook Setting: Name Order

- Change between “LastName FirstName” and “FirstName LastName” ordering when copying phonebook data

10.9. UFED Settings

Report Information

- If these options are enabled, it allows you to enter free text such as case/file number, examiner’s name, department, location and notes to be added to each transfer process as part of the report. The user will be prompted during the transfer process to enter the values for these fields. This data will automatically be added to the Examination Report.

  NOTE: The UFED Report Manager software also enables users to add various fields to each report.

Mobile Client Settings

- **Client Covert mode** – Rename the application client name from "Cellebrite.sis/exe" to "AAA.sis/exe".

Client Uninstall Reminder – When enabled, the UFED will prompt the user to uninstall the client from the examined smartphone.

Report Settings

- **Report Format** – Change the layout of the HTML report to compact mode or normal mode.
- **Generate XML Report** – Enabling this feature will add a report in XML format to the target.

10.10 Admin Settings

**The password for this section is: ADMIN333*

- **Global Settings**– Enable Report and Help menu
- **Users List** – Manage users in white list to work with the UFED
- **Crime Types List** – Enable to add crime category to the report

Chapter 11. **Upgrade**

11.1. Overview

Cellebrite continuously updates its UFED software, providing support for new phone devices as they are released by the various phone vendors. The Upgrade process installs these various updates on your UFED device.

The UFED application is constructed of three main files:

1. Tiny Image – Core system software
2. Full Image – Additional core system software
3. Application – The UFED application and data, including support for the various phone models.

When upgrading, you choose either Application Upgrade or Images Upgrade. The Images Upgrade option updates both the Full and Tiny images.

You can upgrade your UFED in one of three ways:

1. Locally via USB Disk Drive or via SD card
2. Locally via PC
3. Remotely via the Internet

Automatic upgrade can be done when the UFED is connected to the internet, via the Ethernet connection.

NOTE: When performing an upgrade, the UFED will reset itself. Do not interrupt the process at any stage. The full upgrade process takes approximately four minutes.

11.2. Upgrade from USB Disk Drive or SD Card

1. Main Menu

Select Services.

Press OK or ► to continue**.**

2. Services Menu

Select Upgrade.

Press OK or ► to continue**.**

3. Upgrade Menu

For a manual upgrade, you have two options:

- Upgrade Application Now – The 'application' refers to the UFED application data, which includes the support information for any new phones.
- Upgrade Image Now – The 'image' refers to the core software that is running on the UFED.

Use the ▲▼ keys to move between options**.** Press OK or ► to continue**.**

4. Select Upgrade Source

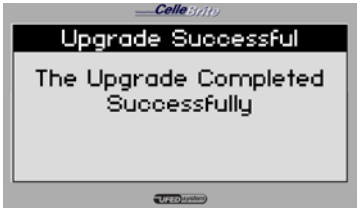
Choose USB Disk Drive or SD Card, according to where you have copied the upgrade files.

Use the ▲▼ keys to move between options**.** Press OK or ► to continue.

5. Upgrade

The UFED will display the available upgrade files. Select the correct file, Press OK or ► to continue The UFED now performs the upgrade. Do not interrupt the UFED until the full process is complete.

6. Finish



After finishing the upgrade process, the UFED displays a message indicating that it completed the update. It will then restart automatically, and return you to the main menu.

11.3. Upgrade from PC

In order to upgrade from PC, the Upgrade Utility is required on your PC. If it is not already installed, run the installation located on the CD in the UFED Kit.

When upgrading from a PC, the process is similar to that described above for USB Disk Drive, with a few additional steps on your PC, as described below.

1. Select Update Type and Source

On the UFED, after choosing *Services / Upgrade,* choose the type of upgrade (Application or Image) and select *PC* as the source for the upgrade.

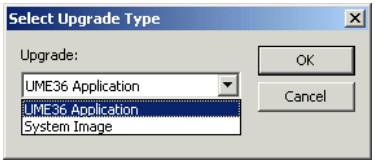
Use the ▲▼ keys to move between options**.** Press OK or ► to continue**.**

2. Run the Upgrade Program on the PC

Run the Upgrade Program, via "Start / Programs / Cellebrite / Upgrade Program."

7. Select Upgrade Type

On your PC, select the upgrade type, according to the type that you chose in step 1

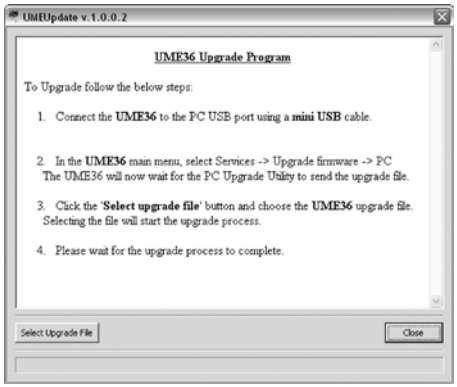


8. Connect the UFED to the PC

Connect your UFED to the PC using the mini-USB cable provided in the kit. The cable connects to any standard USB port on the PC.

9. Start the upgrade process

Start the upgrade process by performing the steps that are requested by the software's dialog box displayed on your PC.


UMEUpdate v.1.0.0.2
UME36 Upgrade Program
To Upgrade follow the below steps:
1. Connect the UME36 to the PC USB port using a mini USB cable.
2. In the UME36 main menu, select Services -> Upgrade firmware -> PC
The UME36 will now wait for the PC Upgrade Utility to send the upgrade file.
3. Click the 'Select upgrade file' button and choose the UME36 upgrade file.
Selecting the file will start the upgrade process.
4. Please wait for the upgrade process to complete.
Select Upgrade File
Close

10. Upgrade

The UFED now performs the upgrade. Do not interrupt the UFED until the full process is complete.

11. Finish

After finishing the upgrade process, the UFED displays a message indicating that it completed the update. It will then restart automatically, and return to the main menu.

11.4. Upgrade from Web

1. Configure HTTP Settings (one time only)

To upgrade from the web, first make sure that the FTP/HTTP settings are initialized properly. For most network environments, the UFED comes preconfigured properly. In some cases where network environments require proxies and userid/passwords, set these settings as described in Section 11.5

2. Connect the UFED to the network

Connect the UFED device to your network via the Ethernet port on the top of the UFED. Use a standard Ethernet cable for this connection.

3. Select Update Type and Source

On the UFED, after choosing *Services / Upgrade,* choose the type of upgrade (Application or Image) and select *HTTP Server* as the source for the upgrade.

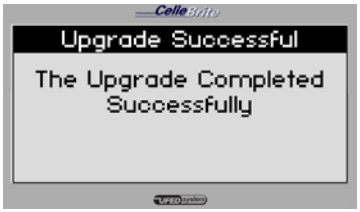
Use the ▲▼ keys to move between options**.** Press OK or ► to continue**.**

4. Upgrade

The UFED now performs the upgrade, by fetching the upgrade files from the HTTP server. Do not interrupt the UFED until the full process is complete.

5. Finish

After finishing the upgrade process, the UFED displays a message indicating that it completed the update. It will then restart automatically, and return to the main menu.



11.5. Automatic Upgrade from Web

If your UFED is connected to the network via the Ethernet port, you can configure it to perform automatic upgrades. This enables you to keep your UFED up-to-date without requiring any ongoing interaction.

We recommend using this method, as it eliminates the manual process for each upgrade, and guarantees that your UFED remains up to date.

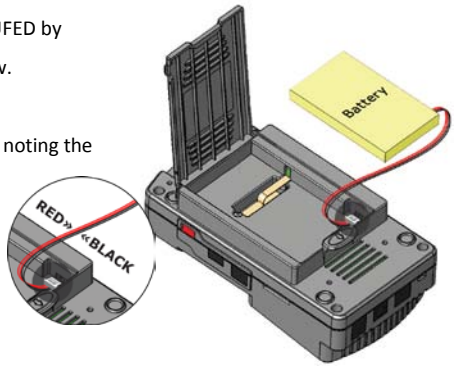
To do this, first select Upgrade Settings from the Upgrade menu. Then, set the following settings according to your preferences and your network requirements, as described in the following section.

Auto Upgrade: Method	• Disabled – The UFED will not perform any automated upgrades • FTP – The UFED will access an FTP site in order to get upgrade files • HTTP – The UFED will use HTTP to access upgrade files
Auto Upgrade: Period	Choose how often you want the UFED to check for upgrades – Daily, Weekly or Monthly.
FTP Settings	If you chose FTP for your upgrade method, specify the ftp details, as provided by your distributor. You will need to specify: • FTP Address • Port Number • Username • Password Hit F3 after each screen in order to continue.
FTP Proxy Settings	• Direct Connect – Choose this if your network security does not require a proxy to access external FTP sites. • Use Proxy – If a proxy is needed, choose this option. You will then be asked to provide the address and port of the proxy

HTTP Settings	Similar to the FTP settings, when the upgrade method is HTTP
HTTP Proxy Settings	Similar to FTP Proxy settings, when the upgrade method is HTTP. • App – The application version • Full and Tiny – The software image versions • S/N – The UFED Serial Number • ID – The unique identifier

Appendix A: Battery Replacement (Ruggedized Only)

1. Open battery compartment located on the back of the UFED by pushing on the release latch in the direction of the arrow.
2. Attach connector:
   a. Remove the old battery an unplug the connector, noting the orientation of the connector.
   b. Connect the new battery, taking care to connect the power connector in the same orientation.
   c. Place the battery in the battery box.
   d. Close the cover
   e. Check UFED power by sliding the power switch to 'BAT' (unit should power on if battery is charged), Charge the device if necessary, by connecting it to the power supply, and sliding the power switch to 'CH'



Warning: Lithium Polymer batteries are volatile. Improper use, or charging may result in fire, personal injury, and damage to property.

Warning: The batteries could be used within the following temperature ranges. Exceeding these ranges could result in fire, personal injury, and damage to property

- Operating Temperature: -20 to 60°
- Storage Temperature: -20 to 45° for 1 Month.
  (Storage temperature for longer periods should be limited to: 0 to 25°C)
- Charging Temperature: 0 to 45°

Warning: Over-discharging of Li-Polymer cells can cause cell degradation, functional losses, and battery swelling. The cells can degrade into an over-discharge state through self discharging.

Battery over-discharging prevention- precautionary measures:

1. When the UFED battery charge drops below 15% (all indication LEDs are off), charge the device as soon as possible.
2. The slide switch should never be left in 'BAT' position if the UFED is not in use. Prolonged time in this setting (1 month +) can result in damage the battery and reduce capacity.
3. Check the batteries capacity periodically and charge when necessary.

Appendix B: Technical Specifications

Power Supply (**UFED Ruggedized**) :	Input: AC 100-240V, 50/60Hz Output: DC 15V, 3.3A
Power Supply (**UFED Standard**) :	Input: AC 100-240V, 50/60Hz Output: DC 12V, 2A
Interfaces:	RJ-45 (source phone) RJ-45 (target side) USB (source phone) USB (target phone) Mini DIN to PC COM Port SIM reader IrDA (source and target)
IRDA	2 Infrared transceiver modules. Supports STD IrDA speeds (up to 115kbps)
Ethernet controller	LAN91C111, 10/100MBPS Ethernet- controller, and an 8KB packet buffer SDRAM
CPU	Intel XScale micro-architecture
CPU frequency	520MHz
Bus frequency	104MHz Memory Capacity
SD RAM	128MByte (RAM)
Flash memory	Intel StrataFlash embedded memory 64MByte density
Operating System	Microsoft Windows CE
Operating Temperature:	0°C to 70°C / 32°F to 158°F
Storage Temperature:	-40°C to 80°C / -41°F to 176°F
Battery Maintenance:	**Operating Temperature** (Discharge): -20～60° **Storage Temperature:** -20～45° for 1 Month. -20～35° for 12 Months **Charging Temperature:** 0～45° (Cycle life: ≥300)
Maximum relative humidity	95%

Cellebrite UFED System - Software Update Log

Cellebrite releases software updates frequently to support new phone devices, as well as add feature functionality. It is ***extremely important*** to update your UFED on a regular basis to maximize it's capability to support all the latest mobile devices available.

Software updates are emailed from Cellebrite monthly to contacts on an email distribution list. If your organization is not receiving updates on a regular basis, would like to add additional emails for distribution, need instructions, or technical support for the process, please contact Cellebrite

Current App. Version	Last Update Date	Updated by